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USE OF 2,4-D AND MCPA
FOR CONTROL OF WEEDS IN ALBERTA.

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Weeds cause an average loss of about \$1,000.00 per farm or \$5.00 per seeded acre on the prairies. Herbicides such as 2,4-D and MCPA when used wisely, can improve the efficiency of weed control and help to reduce this loss significantly. This leaflet gives a brief summary of the latest recommendations on the proper use of the two selective herbicides and is based on the information obtained from the latest deliberations of the National Weed Committee, Western Section.

SUMMARY OF HERBICIDE RECOMMENDATIONS.

This table gives the recommended rates of applying 2,4-D and MCPA in water spray for the control of weeds in growing crops.

		<u>Ounces Acid Equivalent Per Acre</u>				
		Weed Group	Weed Group	Weed Group	Weed Group	Weed Group
<u>Crop</u>	<u>Formulation</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
	<u>2,4-D</u>					
Wheat, Barley	Ester	3 to 4	4 to 6	6 to 8	(9 to 12)	(12 to 16)
Rye, and Corn	Amine	4 to 5	5 to 7	7 to 9	(10 to 14)	(15 to 20)
*Oats	Amine	4 to 5	5 to 7	(7 to 9)		
*Flax	Ester	3 to 4	(4 to 6)	(6 to 8)		
	Amine	4 to 5	(5 to 7)	(7 to 9)		

<u>MCPA</u>						
Oats (Wheat, Barley, Rye and Corn	Ester	3 to 4	4 to 6	6 to 8	(9 to 12)	(12 to 16)
	Amine	4 to 5	5 to 7	7 to 9	(10 to 14)	(15 to 20)
	Sodium					
	Salt	5 to 6	6 to 8	8 to 10	(11 to 15)	(15 to 20)
<u>Flax</u>	Ester	3 to 4	4 to 6	(6 to 8)	(9 to 12)	
	Amine	4 to 5	5 to 7	(7 to 9)	(10 to 14)	
	Sodium					
	Salt	5 to 6	6 to 8	(8 to 10)	(12 to 15)	
Alfalfa, Red and Alsike Clover	Amine	2 to 4	in 15 to 20 gals. water per acre			
	Sodium					
	Salt	3 to 6				
as	Amine	2 to 4	in 15 to 20 gals. water per acre			
	Sodium					
	Salt	2 to 6				

For emergency use only. Considerable reduction in crop yield can be expected particularly where the heavier rates (in brackets) are used.
Where the above chemicals are applied in a dust carrier, it is generally advisable to use up to 1/3 more acid per acre than the rate recommended in a water spray.

WEED CLASSIFICATION ACCORDING TO RESPONSE TO 2,4-D AND MCPA

Summary of Common Weeds Treated in Growing Crops

- Wild Mustard - this weed can be killed at any time up to advanced flowering stage.
- Stinkweed and Lamb's Quarters - can be killed any time before flowering. They

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become resistant after flower formation.

Russian Thistle and Red-Root Pigweed - these weeds are killed or stunted at very early stages of growth but become rapidly resistant.

Canada Thistle and Perennial Sow Thistle - top growth stunted or destroyed by rates recommended for use in growing crops. Repeated heavy dosages are required for eradication on uncropped land.

B. Detailed Classification Indicating Response To 2,4-D or MCPA

The lists include only those plants on which information has been obtained in Western Canada. This information is meagre in many cases. Furthermore, there are some conflicting reports concerning the effectiveness of herbicides on different plants, particularly the woody perennials. Therefore, the classification is subject to change.

The letter A, B or P following a plant name designates that the plant is Annual, Biennial or Perennial. Some weeds belong to more than one of these groups. After the A, B or P appears additional information relative to the response of the weed to 2,4-D or MCPA.

The categories are as follows:

Group 1 - Very susceptible - i.e. wild mustard

Group 2 - Susceptible annuals - requiring higher dosages than Group 1

Group 3 - Moderately susceptible - Susceptible in early growth stages. May become less susceptible under adverse conditions and/or with advancing growth.

Group 4 - Moderately resistant - Under adverse conditions and/or with advancing growth become highly resistant. Perennials may require retreatment.

Group 5 - Consists mainly of perennial weeds of which generally only the top growth is controlled with 2,4-D or MCPA.

<u>Common Name</u>	<u>Scientific Name</u>	<u>Type</u>	<u>Herbicide Classification*</u>	
			<u>2,4-D</u>	<u>MCPA</u>
Amaranth, prostrate	Amaranthus graecizans	A	4	4
Alfalfa	Medicago sativa	P	4	4
Bindweed, field	Convolvulus arvensis	P	4	4
Bindweed, hedge	Convolvulus sepium	P	4	4
Bladder campion	Silene cucubalus	P	R	R
Blue bur	Lappula echinata	A	3	3
Brecken	Pteridium aquilinum	P	R	R
Buckwheat, wild	Polygonum convolvulus	A	4	4
Buckwheat, tartary	Fagopyrum tataricum	A	4	4
Burdocks	Arctium spp.	B	3	3
Buttercup, creeping	Ranunculus repens	P	5	4
Buttercup, tall	Ranunculus acris	P	4	4
Cacti	Cactaceae	P	R	R
Catchfly, night-flowering	Silene noctiflora	A	R	R
Chickweed, common	Stellaria media	A	4	4
Cinquefoil, shrubby	Potentilla fruticosa	P	R	R
Clover, sweet	Melilotus spp.	A	3	4
Cocklebur	Xanthium spp.	A	3	3
Cockle, cow	Saponaria vaccaria	A	R	R
Cockle, purple	Agrostemma githago	A	R	R
Cockle, white	Lychnis alba	P	R	R
Corn spurry	Spergula arvensis	A	R	R
Cress, hoary	Cardaria spp.	P	4	4
Cress, shield	Lepidium perfoliatum	A	R	R

Common Name	Scientific Name	Type	Herbicide Classification*	
			2,4-D	NCPA
Daisy, ox-eye	Chrysanthemum leucanthemum	P	R	R
Dandelion (in lawns)	Taraxacum spp.	P	3	3
Dandelion (in fields)	Taraxacum spp.	P	4	4
Dock, curled	Rumex crispus	P	4	4
False flax, western	Camelina microcarpa	A	4	4
False flax, large seeded	Camelina sativa	A	4	4
Flixweed	Descurainia sophia	A	3	3
Goatsbeard	Tragopogon dubius	A	3	3
Goosefoot, spear-leaved	Monolepis nuttalliana	A	4	4
Grasses		A & P	R	R
Groundsel, common	Senecio vulgaris	A	4	4
Gumweed	Grindelia perennis	P	3	3
Horsebail	Equisetum arvense	P	5	4
Knapweed, Russian	Centaurea repens	P	5	5
Knotweed	Polygonum spp.	A	R	R
Lamb's quarters	Chenopodium album	A	2	2
Lettuce, lobed, prickly	Lactuca scariola	A	3	3
Lettuce, blue	Lactuca scariola	P	4	4
Licorice, wild	Glycyrrhiza lepidota	P	R	R
Mayweed, stinking	Anthemis cotula	A	R	R
Mayweed, scentless	Matricaria inodora	A	5	R
Milkweed	Asclepias spp.	P	R	R
Mustard, ball	Neelia paniculata	A	2	2
Mustard, dog	Brucastum gallicum	A	4	4
Mustard, hare's ear	Conringia orientalis	A	2	2
Mustard, Indian	Brassica juncea	A	2	2
Mustard, tansy	Descurainia pinnata	A	4	4
Mustard, tumbling	Sisymbrium altissimum	A	2	2
Mustard, wild	Brassica kaber var. pinnatifida	A	1	1
Mustard, wormseed	Erysimum cheiranthoides	A	2	2
Nettle, hemp	Galeopsis tetrahit	A	5	4
Nettle, sting	Urtica spp.	P	3	3
Pepper grass	Lepidium spp.	A	4	4
Pigweed, ret root	Amaranthus retroflexus	A	4	4
Pigweed, Russian	Axyris amaranthoides	A	3	3
Pineapple weed	Matricaria spp.	A	4	4
Plantain, common	Plantago major	P	3	3
Poverty weed	Iva axillaris	P	R	R
Purslane	Portulaca oleracea	A	4	4
Quickweed (Galinsoga)	Galinsoga ciliata	A	4	4
Radish, wild	Raphanus raphanistrum	A	3	3
Ragweed, common	Ambrosia artemisiifolia	A	2	2
Ragweed, false	Iva xanthifolia	A	2	2
Ragweed, great	Ambrosia trifida	A	2	2
Sage, pasture	Artemisia frigida	P	R	R
Shepherd's purse	Capsella bursa-pastoris	A	3	3
Smartweeds	Polygonum (persicaria) spp.	A & P	4	4
Sow thistle, annual	Sonchus oleraceus	A	4	4
Sow thistle, perennial	Sonchus arvensis	P	4	5
Spurge, leafy	Euphorbia esula	P	5	5
Stinkweed	Thlaspi arvense	A	2	2
Sunflowers	Helianthus spp.	A & P	2	3
Tansy	Tanacetum vulgare	P	R	R
Thistle, Canada	Cirsium arvense	P	4	4
Thistle, prairie	Cirsium undulatum	B & P	4	4
Thistle, Russian	Salsola kali var. tenuifolia	A	4	5
Toadflax, yellow	Linaria vulgaris	P	R	R
Tumbleweed	Amaranthus graecizans	A	4	4

<u>Common Name</u>	<u>Scientific Name</u>	<u>Type</u>	<u>Herbicide Classification*</u>	
			<u>2,4-D</u>	<u>MCPA</u>
Yarrow	Achillea millefolium	P	R	R

* "R" under Herbicide Classification means that plants generally are resistant to 2,4-D and MCPA.

Woody Plants

(Classified according to their response to herbicides)

Group 1 - Controllable by 2,4-D

Caragana	Caragana spp.
Chokecherry	Prunus melanocarpa
Currants	Ribes spp.
Hazelnut	Corylus spp.
Honeysuckle	Lonicera tatarica
Lilac	Syringa vulgaris
Maple, Manitoba	Acer negundo
Pincherry	Prunus pensylvanica
Poplar, Aspen	Populus tremuloides
Poplar, Balsam	Populus balsamifera
Saskatoon	Amelanchier alnifolia
Snowberry, Western	Symphoricarpos occidentalis
Spiraea	Spiraea spp.
Willows	Salix spp.
Wolf Willow	Elaeagnus commutata

Group 2 - Not controllable by 2,4-D

Blackberry	Rubus spp.
Oak	Quercus macrocarpa
Raspberry	Rubus spp.
Rose	Rosa spp.

Group 3 - Apparently more susceptible to 2,4,5-T than to 2,4-D.

Ash	Fraxinus spp.
Bearberry	Arctostaphylos uva-ursi
Blackberry	Rubus spp.
Dogwood	Cornus spp.
Hawthorn	Crataegus succulenta
Raspberry	Rubus spp.
Rose	Rosa spp.

For more detailed information on the use of 2,4-D and MCPA, read Publication No. 83 "Weed Control with Chemicals," available at the office of your local District Agriculturist or by writing the Field Crops Branch, Alberta Department of Agriculture, Edmonton.

The information in Publication No. 83 is up-to-date except the table on page 8 dealing with rates of 2,4-D and MCPA, and the section on "Weed Classification According to Response to 2,4-D and MCP" - pages 19 - 22 inclusive. For these sections substitute the information contained in this leaflet.